

1 Description

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3 Method for the control and evaluation of message traffic of a
4 communication unit by means of a first network unit within a
5 mobile radio system, pertaining communication unit and first
6 network unit.

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8 The object of the invention is to provide the control and
9 evaluation of the message traffic of a communication unit by
10 means of a first network unit within a mobile radio system in a
11 simple and efficient manner. This object is achieved by the
12 following method in accordance with the invention.

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14 The method for the control and evaluation of message traffic of
15 a communication unit by means of a first network unit within a
16 mobile radio system, in that all the messages of the message
17 traffic are forwarded via the first network unit, in that by
18 means of the first network unit a decision is made with the aid
19 of one or more items of useful information of the communication
20 network KE as to whether one or more messages are to be
21 forwarded to a second network unit for further processing or
22 are to be blocked, and in that a decision is made by means of
23 the first network unit with the aid of one or more items of
24 useful information of the communication unit as to whether the
25 particular message of the message traffic is to be logged by
26 the first network unit in a logfile, with the specific set of
27 useful information (NI) being allocated to a user identity
28 (NID) in each case, with the specific set of useful information
29 (NI) being used to control and evaluate at least one message of
30 the message traffic of a communication unit (KE) and with the
31 user identity (NID) being allocated to an application (AP) of
32 the communication unit(KE).

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2 By means of the method in accordance with the invention, the
3 message traffic of a communication unit is controlled and
4 evaluated in an advantageous manner. Using one or more items of
5 useful information of the particular communication unit,
6 different and individual decision rules for control and
7 evaluation can be used for various communication units.

1 Furthermore, by means of the method in accordance with the
2 invention the logging of the message traffic of an application
3 of the relevant communication unit is enabled in an
4 advantageous manner. Because the logging takes place at
5 application level, the logging can be made dependent on the
6 content of the individual messages, i.e. on the message data.
7 Thus, the data quantity of messages with multimedia content,
8 such as video sequences or voice recordings, can be registered
9 during the logging as a chargeable data volume, and messages
10 with control information can be excluded from the logging.

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12 The invention also relates to a first network unit for control
13 and evaluation of message traffic of a communication unit
14 within a mobile radio system, with a receiving unit by means of
15 which all the messages of the message traffic of the
16 communication unit can be received, with a transmitting unit by
17 means of which all the messages of the message traffic can be
18 transmitted, and with a processing unit by means of which it
19 can be decided, on the basis of one or more items of useful
20 information of the communication unit, whether at least one
21 message of the message traffic is to be forwarded to a second
22 network unit for further processing or is to be blocked, and by
23 means of which it can be decided, on the basis of one or more
24 items of useful information of the communication unit whether
25 at least one message of the message traffic is to be logged in
26 a logfile by the first network unit, with a specific set of
27 useful information being allocated in each case to a user
28 identity, with the specific set of useful information being
29 used for control and evaluation of at least one message of the
30 message traffic of the communication unit and the user identity
31 being allocated to an application of the communication unit KE.

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1 The invention also relates to a communication unit where the
2 message traffic is controlled and evaluated by a first network
3 unit, with a receiving unit by means of which all the messages
4 of the message traffic can be received, and with a transmission
5 unit by means of which all the messages of the message traffic
6 can be transmitted.

1 Claims

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3 1. Method for the control and evaluation of a message traffic
4 of a communication unit (KE), by means of a first network unit
5 (NE1) within a mobile radio system (MS), in that all messages
6 of the message traffic are transmitted via the first network
7 unit (NE1),

8 with the first network unit (NE1) deciding, with the aid of one
9 or more items of useful information (N1) of the communication
10 unit (KE), whether one or more messages can be forwarded to a
11 second network unit (NE2) for further processing, or are to be
12 locked,

13 and with the first network unit (NE1) deciding with the aid of
14 one or more items of useful information (N1) of the
15 communication unit (KE) whether the particular message of the
16 message traffic is to be logged in a logfile (PD) by the first
17 network unit (NE1),

18 characterized in that

19 a specific set of useful information (NI) is assigned in each
20 case to a user identity (NID), with the specific set of useful
21 information (NI) being used to control and evaluate at least
22 one message of the message traffic of the communication unit
23 (KE),

24 and with the user identity (NID) being allocated to an
25 application (AP) of the communication unit KE.

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27 2. Method in accordance with claim 1, characterized in that
28 one or more items of useful information (NI) that determine the
29 controlling and evaluation of one or more messages of the
30 message traffic of the communication unit (KE) are called up
31 from a database (HSS).

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2 3 Method in accordance with one of the preceding claims,
3 characterized in that
4 at least one following filter instructions (FW) is inserted
5 into at least one item of useful information (NI):
6 - one or more positive destination addresses (PEA) that are
7 addressable for the communication unit (KE);
8 - one or more negative destination addresses (NEA) that are
9 not addressable for the communication unit (KE);
10 - one or more destination addresses (XEA) that are to be
11 logged, that are logged by the first network unit (NE1).
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13 4 Method in accordance with one of the preceding claims,
14 characterized in that
15 message traffic messages to be logged are identified by an
16 acquisition identity (NI).
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18 5 Method in accordance with one of the preceding claims,
19 characterized in that
20 the logfile (PD) is forwarded by the network unit (NE1) by
21 means of a logging message (PDN) to an evaluation unit (AWE)
22 for evaluation.
23

24 6 Method in accordance with claim 7,
25 characterized in that
26 by means of the evaluation unit (AWE) the messages logged in
27 the logfile (PD) are evaluated using at least one of the
28 following criteria:

- 29 - Useful data (ND) of the message;
30 - Destination address (EA) of the message;
31 - Number of accesses to the destination address (EA);
32 - Data quantity;

- 1 - Messages that were sent with a specific user identity
- 2 (NID);
- 3 - Messages that were sent with a specific acquisition
- 4 identity (EI);
- 5 - Correlation of messages with signaling information and/or
- 6 useful data (ND).

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8 7. Method in accordance with one of the preceding claims,

9 characterized in that

10 the communication unit (KE) is authorized to exchange messages,

11 and in that one or more key pairs (SCP) are used to provide a

12 protected message traffic.

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14 8. Method in accordance with one of the preceding claims,

15 characterized by use in an architecture in accordance with an

16 IP multimedia subsystem with the aid of the session initiation

17 protocol.

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19 9. Method in accordance with one of the preceding claims,

20 characterized in that

21 the first network unit (NE1) is realized by a group of network

22 elements (NEE).

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24 10. First network unit (NE1) for controlling and evaluating

25 message traffic of a communication unit (KE) within a mobile

26 radio system (MS), especially in accordance with at least one

27 of the preceding claims,

28 with a receiving unit (SE2) by means of which all messages of

29 the message traffic of the communication unit (KE) can be

30 received,

31 with a transmitting unit (SE2) by means of all messages of the

32 message traffic can be transmitted,

1 and with a processing unit (VE2) by means of which it can be
2 decided whether at least one message of the message traffic
3 can, on the basis of one or more items of useful information
4 (NI) of the communication unit (KE), be forwarded to a second
5 network unit (NE2) for further processing or can be blocked,
6 and by means of which it can be decided whether at least one
7 message of the message traffic can, on the basis of one or more
8 items of useful information (NI) of the communication unit
9 (KE), be logged by the first network unit (NW1) in a logfile
10 (PD), with a specific set of useful information (NI) being
11 assigned to a user identity (NID) in each case, with the
12 specific set of useful information (NI) being used to control
13 and evaluate at least one message of the message traffic of the
14 communication unit (KE), and with the user identity (NID) being
15 allocated to an application (AP) of the communication unit
16 (KE).

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18 11. Communication unit (KE) of the message traffic being
19 controlled and evaluated within a mobile system (MS) by a first
20 network unit (NE1), especially in accordance with one of the
21 preceding claims 1 with 9, with a receiving unit (EE1), by
22 means of which all messages of the message traffic can be
23 received, and with a transmitting unit (SE1), by means of which
24 all messages of the messages traffic can be transmitted.

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